

PROPOSED DEVELOPMENT at PLAS POWER ESTATE, WREXHAM, LL11 3BP

KANE DESIGN

SOAKAWAY RESULTS

CLIENT

29 March 2016

JOB NUMBER:

1292

STRUTT AND PARKER

AK

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For locations see drawing Sketch 1292/ SK1

SOAKAWAY REFERENCE : TEST PIT 1

DEPTH

TO

WATER(m

Date

Tue 22 March 2016

Weather:

dry

TIME)

DEPTH OF WATER IN PIT(mm)

START 10.00am 0.58 1420

16.00pm 0.58

PIT SIZE (m)

Length 2.00

Width 1.50

Average Depth 2.00

END 8.00pm 0.60 1400

PIT AREA (m 3.00

TOTAL TIME 1320 minutes

CALCULATED:

V25

25%

V75

75%

TIME TO FALL FROM 75% to 25% (mins)

INTERPOLATED		
TIME (mins)	TIME	DEPTH (mm)
330	15.30pm	580
990	2.30am	590
660		10

CALCULATION:

INFILTRATION RATE = f =

$V = \text{Effective Storage Volume between 75\% and 25\% full}$

$T = \text{Time taken to drain above } X \text{ AP}$

where AP = 50% internal surface area, including base:

= 10.00 m2

CALCULATED

FROM ABOVE

V (V75-V25)

CALCULATED

SOAKAWAY

PIT AREA

Depth 25%

Depth 75%

x PIT AREA

T

AP

f (Infiltration rate)

	m2	mm	mm	m3	minutes	m2	
1	3.00	580.00	590.00	0.030	660.00	10.00	7.58E-08 m3/second

UNSUITABLE FOR SOAKAWAYS: INFILTRATION RATE TOO SLOW

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SOAKAWAY REFERENCE : TEST PIT 2**DEPTH**

Date Tue 22 March 2016

TO

Weather: dry

WATER(m**TIME) DEPTH OF WATER IN PIT(mm)**

START 10.00am 0.60 1400

PIT SIZE (m)

16.00pm 0.60

Length 2.00

Width 1.50

END 8.00pm 0.60 1400

Average Depth 2.00

PIT AREA (m 3.00

TOTAL TIME 1320 minutes

CALCULATED:

V25 25%

V75 75%

TIME TO FALL FROM 75% to 25% (mins)

INTERPOLATED		
TIME (mins)	TIME	DEPTH (mm)
330	15.30pm	600
990	2.30am	600
660		0

CALCULATION:INFILTRATION RATE = $f =$ $\frac{V}{T}$ = Effective Storage Volume between 75% and 25% full

T= Time taken to drain above X AP

where AP = 50% internal surface area, including base:

= 10.00 m2

CALCULATED

FROM ABOVE

V (V75-V25)

CALCULATED

SOAKAWAY**PIT AREA****Depth 25%****Depth 75%****x PIT AREA****T****AP****f (Infiltration rate)**

	m2	mm	mm	m3	minutes	m2	
1	3.00	600.00	600.00	0.000	660.00	10.00	0.00E+00 m3/second

UNSUITABLE FOR SOAKAWAYS: INFILTRATION RATE TOO SLOW

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SOAKAWAY REFERENCE : TEST PIT 3**DEPTH**

Date

Tue 22 March 2016

TO

Weather:

dry

WATER(m**TIME)****DEPTH OF WATER IN PIT(mm)**

START 10.00am 0.55 1450

16.00pm 0.55

PIT SIZE (m)

Length 2.00

Width 1.50

END 8.00pm 0.60 1400

Average Depth 2.00

PIT AREA (m 3.00

TOTAL TIME 1320 minutes

CALCULATED:

V25 25%

V75 75%

TIME TO FALL FROM 75% to 25% (mins)

INTERPOLATED		
TIME (mins)	TIME	DEPTH (mm)
330	15.30pm	550
990	2.30am	600
660		50

CALCULATION:INFILTRATION RATE = $f =$ $V = \text{Effective Storage Volume between 75\% and 25\% full}$ $T = \text{Time taken to drain above } X \text{ AP}$

where AP = 50% internal surface area, including base:

 $= 10.00 \text{ m}^2$

CALCULATED

FROM ABOVE

 $V (V75-V25)$

CALCULATED

SOAKAWAY**PIT AREA****Depth 25%****Depth 75%** $\frac{V}{\text{PIT AREA}}$ **T****AP****f (Infiltration rate)**

	m2	mm	mm	m3	minutes	m2	
1	3.00	550.00	600.00	0.150	660.00	10.00	3.79E-07 m3/second

UNSUITABLE FOR SOAKAWAYS: INFILTRATION RATE TOO SLOW

